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EXAMINER

HAILE, AWET A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/735,673	Applicant(s) GAZZARD, DARYL	
	Examiner AWET HAILE	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 22-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. **Claims 22-42** are pending on this application.

Claims 1-21 are cancelled.

Response to Argument

2. Applicant's arguments with respect to claims **22-42** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 USC§ 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. **Claims 22, 25-32, 35-39 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjorken (US 7328008 B2) in view of 3GPP TS 23.060 V3.15.0 (2003-06) hereinafter referred as 3GPP.

Regarding claim 22, Bjorken '008 discloses, a method for coordinating operation modes of a General Packet Radio Service (GPRS) network (see column 5, lines 40-64 and Fig. 4, i.e. base station subsystem (BSS) 120 selecting a network operation modes(NOM) based on the Gs interface status) comprising:

monitoring a status of a Gs link between a Serving GPRS Support Node (SGSN) and a Mobile Switching Center (MSC) (see column 5, lines 40-64 and Fig. 4, i.e. MSC 212 and SGSN 222 monitoring the Gs interface 230 status); sending a Gs status message to a Base Station Controller (BSC) indicating the status of the Gs link(see column 5, lines 40-65 and Fig. 4, i.e. SGSN 222 sending interface status message 145 to BSS 120); selecting an operation mode from a plurality of operations modes based on the Gs status message(see column 5, lines 55 – 64, i.e. BSS changing NOM I to NOM II based on the Gs interface status message 145),

wherein each of the plurality of operation modes specifies which one of a plurality of channels to use for circuit-switched pages and which to use for data packet pages(see column 4, lines 34-60, i.e. for NOM I(when the Gs interface is present) circuit switched(SC) paging messages are preferably forwarded via Packet Broadcast Control Channel(PBCC) and For NOM

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II (when Gs interface is not present) paging messages are forwarded via the common control channel (CCCH));

sending a first operation mode message from the BSC to a mobile subscriber (MS) instructing the MS to switch to the selected operation mode (see column 5, lines 50– 64 and Fig. 4, i.e. BSS 120 notifying mobile station 110 to stop listening P-channels and to monitor the BCCC and CCCH instead);

Bjorken '008 is silent on, sending a second operation mode message from the BSC instructing the SGSN to switch to selected operation mode.

3GPP disclosed, sending a second operation mode message from the BSC instructing the SGSN to switch to selected operation mode (see page 174, Fig. 174 step 4, i.e. the BSS sending a resume message to the SGSN after a circuit switching connection is terminated, which changes the NOM from NOM II to NOMI).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of sending a message from a BSS to SGSN to inform NOM changes as taught by the 3GPP, into the core interface monitoring method of Bjorken '008, in order to enable a mobile station resume GPRS services by sending routing area update request message to the SGSN, since such method is suggested by the 3GPP (see page 174, Fig. 99, step 6).

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Regarding claim 25, Bjorken '008 discloses, wherein sending the Gs status message to the BSC further comprises sending the Gs status message from the SGSN (see Fig. 4, i.e. SGSN 222 sending interface status message 145 to BSS 120).

Regarding claim 26, Bjorken '008 discloses, wherein sending the Gs status message to the BSC further comprises sending the Gs status message from the MSC (see Fig. 6, i.e. MSC/VLR 212 sending CS page with status indication message 135 to the BSS 120).

Regarding claim 27, Bjorken '008 discloses, wherein selecting the operation mode from the plurality of operations modes further comprises the BSC selecting the operation mode (see column 5 lines, 55-64, i.e. BSS selecting NOM based on the Gs interface status).

Regarding claim 28, Bjorken '008 discloses, wherein sending the Gs status message to the BSC indicating the status of the Gs link further comprises sending a Gs failed message to the BSC indicating the Gs link has failed or sending a Gs operational message indicating the Gs link is operational (see column 5, lines 40-50 and Fig, 4, i.e. BSS 120 receiving periodical Gs interface status message 145 indicating interface brake-down or minor interface problems).

Regarding claim 29, Bjorken '008 discloses, wherein selecting the operation mode from the plurality of operations modes based on the Gs status message sent to the BSC further comprises selecting the operation mode from the plurality of operations modes based on a list of preferred operation modes (see column 5, lines 50-65 and column 7, lines 35-55, i.e. BSS 120

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selecting NOM based on Gs interface status message, notice, three NOM are available for 3GPP network(see column 1, lines 29-37)), selecting a most preferred operation mode on the list that is compatible with the status of the Gs sent to the BSC(see column 5, lines 50-65 and column 7, lines 35-55, i.e. BSS 120 selecting NOM based on Gs interface status message, notice, if the Gs interface is present the preferred NOM is NOM I and if Gs interface is not present the preferred NOM is NOMII).

Regarding claim 30, Bjorken '008 discloses, wherein the list of preferred operation modes includes network operation mode one (NOM1)(see column 5, lines,55-64 and column 1,lines 29-38, i.e. communicating SC paging via the GPRS network); network operation mode two (NOM2)(see column 5, lines,55-64 and column 1,lines 29-38, BSS 120 switching from NOMI to NOMII), and network operation mode three (NOM3)(see column 5, lines,55-64 and column 1,lines 29-38, i.e. communicating GPRS paging via BCCH);

wherein NOM1 specifies that both packet and circuit-switched pages are sent on a Common Control CHannel (CCCH) to the MS, if the MS is not GPRS attached (see column 4, i.e. sending CS page message via the A interface);

wherein NOM1 specifies that both packet and circuit-switched pages are sent on a packet paging channel to the MS, if the MS is GPRS attached but is not assigned a packet data channel (see column 4, i.e. if the Gs interface is present sending SC pages via PCCCH), wherein NOM1 specifies that circuit-switched pages are sent on a packet data channel to the MS, if the MS is

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GPRS attached and assigned the packet data channel(see column 4, i.e. sending paging SC paging via Gs interface);

wherein NOM2 specifies that both packet and circuit-switched pages are sent on a CCCH to the MS(see column 4 and column 1, lines 29-37, i.e. MSC communicating paging messages via CCCH when a mobile station is not attached to a GPRS network); and wherein NOM3 specifies that circuit-switched pages are sent on a CCCH to the MS and packet pages are sent on a CCCH or a packet paging channel (see column 4, lines 25-44, i.e. communicating CS and packet paging messages via CCCH).

Regarding claim 31, Bjorken '008 discloses, wherein NOM1 is compatible with the Gs in operational status(see column 5, lines 40-64, notice, the preferred NOM is NOM I when the Gs interface is present however if the GS interface not present the NOM is changed to NOM II), but not failed status(see column 5, lines 40-64, notice, the preferred NOM is NOM I when the Gs interface is present however if the GS interface not present the NOM is changed to NOM II);

wherein NOM2 is compatible with the Gs in failed status(see column 5, lines 40-64, notice, the preferred NOM is NOM I when the Gs interface is present however if the GS interface not present the NOM is changed to NOM II), wherein NOM3 is compatible with the Gs in failed status(see column 1, lines 29-38 and column 5, lines 40-64, i.e. when a Gs interface failure occurs BSS 120 switches either to NOM II or NOM III, thus, NOM II is compatible with Gs interface failure).

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Regarding claim 32, Bjorken '008 discloses, a Base Station Controller (BSC) configured for coordinating operation modes of a General Packet Radio Service (GPRS) network(see column 5, lines 40-64 and Fig. 4, i.e. base station subsystem (BSS) 120 selecting a network operation modes(NOM) based on the Gs interface status), comprising :

the BSC configured to receive a Gs status message indicating a status of a Gs link between a Serving GPRS Support Node (SGSN) and a Mobile Switching Center (MSC) (see column 5, lines 40-65 and Fig. 4, i.e. SGSN 222 sending interface status message 145 to BSS 120);

the BSC configured to select an operation mode from a plurality of operation modes based on the status of the Gs sent to the BSC(see column 5, lines 55 – 64, i.e. BSS changing NOM I to NOM II based on the Gs interface status message 145),

wherein each of the plurality of operation modes specifies which one of a plurality of channels to use for circuit-switched pages and which to use for data packet pages(see column 4, lines 34-60, i.e. for NOM I(when the Gs interface is present) circuit switched(SC) paging messages are preferably forwarded via Packet Broadcast Control Channel(PBCC) and For NOM II(when Gs interface is not present) paging messages are forwarded via the common control channel (CCCH));

the BSC configured to send a first operation mode message to a mobile subscriber (MS) instructing the MS to switch to the selected operation mode(see column 5, lines 50– 64 and Fig.

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4, i.e. BSS 120 notifying mobile station 110 to stop listening P-channels and to monitor the BCCC and CCCH instead);

Bjorken '008 is silent on, the BSC configured to send a second operation mode message from the BSC to the SGSN instructing the SGSN to switch to the selected operation mode.

3GPP disclosed, the BSC configured to send a second operation mode message from the BSC to the SGSN instructing the SGSN to switch to the selected operation mode (see page 174, Fig. 174 step 4, i.e. the BSS sending a resume message to the SGSN after a circuit switching connection is terminated, which changes the NOM from NOM II to NOMI).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of sending a message from a BSS to SGSN to inform NOM changes as taught by the 3GPP, into the core interface monitoring method of Bjorken '008, in order to enable a mobile station resume GPRS services by sending routing area update request message to the SGSN, since such method is suggested by the 3GPP (see page 174, Fig. 99, step 6).

Regarding claim 35, Bjorken '008 discloses, wherein sending the Gs status message to the BSC further comprises sending the Gs status message from the SGSN (see Fig. 4, i.e. SGSN 222 sending interface status message 145 to BSS 120).

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Regarding claim 36, Bjorken '008 discloses, wherein sending the Gs status message to the BSC further comprises sending the Gs status message from the MSC (see Fig. 6, i.e. MSC/VLR 212 sending CS page with status indication message 135 to the BSS 120).

Regarding claim 37, Bjorken '008 discloses, wherein sending the Gs status message to the BSC indicating the status of the Gs link further comprises sending a Gs failed message to the BSC indicating the Gs link has failed or sending a Gs operational message indicating the Gs link is operational (see column 5, lines 40-50 and Fig. 4, i.e. BSS 120 receiving periodical Gs interface status message 145 indicating interface brake-down or minor interface problems).

Regarding claim 38, Bjorken '008 discloses, wherein the BSC configured to select the operation mode based on the status of the Gs received by the BSC and based on a list of preferred operation modes further comprises the BSC configured to select the operation mode most preferred on a list of operational modes ranked by preference (see column 5, lines 50-65 and column 7, lines 35-55, i.e. BSS 120 selecting NOM based on Gs interface status message, notice, three NOM are available for 3GPP network(see column 1, lines 29-37));

the selected operation mode compatible with the status of the Gs received by the BSC (see column 5, lines 50-65 and column 7, lines 35-55, i.e. BSS 120 selecting NOM based on Gs interface status message, notice, if the Gs interface is present the preferred NOM is NOM I and if Gs interface is not present the preferred NOM is NOM II).

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Regarding claim 39, Bjorken '008 discloses, a method for a Base Station Controller (BSC) to coordinate operation modes of a General Packet Radio Service (GPRS) network(see column 5, lines 40-64 and Fig. 4, i.e. base station subsystem (BSS) 120 selecting a network operation modes(NOM) based on the Gs interface status), comprising:

receiving a Gs status message indicating the status of a Gs link between a Serving GPRS Support Node (SGSN) and a Mobile Switching Center (MSC) (see column 5, lines 40-65 and Fig. 4, i.e. SGSN 222 sending interface status message 145 to BSS 120);

selecting an operation mode from a plurality of operations modes based on the received Gs status message and based on a list of preferred operation modes(see column 5, lines 55 – 64, i.e. BSS changing NOM I to NOM II based on the Gs interface status message 145),

wherein each of the plurality of operation modes specifies which one of a plurality of channels to use for circuit-switched pages and which to use for data packet pages(see column 4, lines 34-60, i.e. for NOM I(when the Gs interface is present) circuit switched(SC) paging messages are preferably forwarded via Packet Broadcast Control Channel(PBCC) and For NOM II(when Gs interface is not present) paging messages are forwarded via the common control channel (CCCH));

sending a first operation mode message to a mobile subscriber (MS) instructing the MS to switch to the selected operation mode(see column 5, lines 50– 64 and Fig. 4, i.e. BSS 120

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notifying mobile station 110 to stop listening P-channels and to monitor the BCCH and CCCH instead);

Bjorken '008 is silent on, sending a second operation mode message to the SGSN instructing the SGSN to switch to the selected operation mode.

3GPP disclosed, sending a second operation mode message to the SGSN instructing the SGSN to switch to the selected operation mode (see page 174, Fig. 174 step 4, i.e. the BSS sending a resume message to the SGSN after a circuit switching connection is terminated, which changes the NOM from NOM II to NOMI).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of sending a message from a BSS to SGSN to inform NOM changes as taught by the 3GPP, into the core interface monitoring method of Bjorken '008, in order to enable a mobile station resume GPRS services by sending routing area update request message to the SGSN, since such method is suggested by the 3GPP (see page 174, Fig. 99, step 6).

Regarding claim 42, Bjorken '008 discloses, wherein receiving the Gs status message indicating the status of the Gs link further comprises receiving a Gs failed message to the BSC indicating the Gs link has failed or receiving a Gs operational message indicating the Gs link is

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operational (see column 5, lines 40-50 and Fig. 4, i.e. BSS 120 receiving periodical Gs interface status message 145 indicating interface brake-down or minor interface problems).

6. **Claims 23, 33 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjorken '008 and 3GPP as applied to **claim 22, 32 and 39** above, and further in view of Maguire et al (US 6996092 B1).

Regarding claim 23, Bjorken '008 failed to teach, sending an inquiry from the BSC to the SGSN, the inquiry requesting the Gs link status.

Maguire '092 teaches, sending an inquiry from the BSC to the SGSN, the inquiry requesting the Gs link status (see column 9, line 60 – column 10 line 20, i.e. BSS sending a radio link status request to the SGSN via interface (i) 502).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of sending a radio link status request from BSS to SGSN as taught by Maguire '092 into the core interface monitoring method of Bjorken '008, in order to report a status from the BSS to the SGSN an exception condition, since such method is suggested by Maguire '092(see column 10, lines 19-24).

Regarding claim 33, Bjorken '008 failed to teach, wherein the BSC is further configured to send an inquiry to the SGSN, the inquiry requesting the Gs link status.

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Maguire '092 teaches, wherein the BSC is further configured to send an inquiry to the SGSN, the inquiry requesting the Gs link status(see column 9, line 60 – column 10 line 20, i.e. BSS sending a radio link status request to the SGSN via interface (i) 502).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of sending a radio link status request from BSS to SGSN as taught by Maguire '092 into the core interface monitoring method of Bjorken '008, in order to report a status from the BSS to the SGSN an exception condition, since such method is suggested by Maguire '092(see column 10, lines 19-24).

Regarding claim 40, Bjorken '008 failed to teach, sending an inquiry from the BSC to the SGSN, the inquiry requesting the Gs link status.

Maguire '092 teaches, sending an inquiry from the BSC to the SGSN, the inquiry requesting the Gs link status (see column 9, line 60 – column 10 line 20, i.e. BSS sending a radio link status request to the SGSN via interface (i) 502).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of sending a radio link status request from BSS to SGSN as taught by Maguire '092 into the core interface monitoring method of Bjorken '008, in order to report a status from the BSS to the SGSN an exception condition, since such method is suggested by Maguire '092(see column 10, lines 19-24).

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7. **Claims 24, 34 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjorken '008 and 3GPP as applied to **claim 22, 32 and 39** above, and further in view of Landais et al (US 2002/0137532 A1).

Regarding claim 24, Bjorken '008 failed to teach, sending an inquiry from the BSC to the MSC, the inquiry requesting the Gs link status.

Landais '532 teaches, sending an inquiry from the BSC to the MSC, the inquiry requesting the Gs link status (see paragraphs 109, 112, i.e. BSC sending location and interface update requests to the MSC)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of a BSC sending a request to MSC for location and interface update as taught by Landais '532, into the core interface monitoring method of Bjorken '008, in order to inform the MSC to send a SC paging message via the A interface, if the Gs interface is failed, since such method is suggested by Landais '532(see paragraph 113).

Regarding claim 34, Bjorken '008 failed to teach, wherein the BSC is further configured to send an inquiry to the MSC, the inquiry requesting the Gs link status.

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Landais '532 teaches, wherein the BSC is further configured to send an inquiry to the MSC, the inquiry requesting the Gs link status (see paragraphs 109, 112, i.e. BSC sending location and interface update requests to the MSC)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of a BSC sending a request to MSC for location and interface update as taught by Landais '532, into the core interface monitoring method of Bjorken '008, in order to inform the MSC to send a SC paging message via the A interface, if the Gs interface is failed, since such method is suggested by Landais '532(see paragraph 113).

Regarding claim 41, Bjorken '008 failed to teach, sending an inquiry from the BSC to the MSC, the inquiry requesting the Gs link status.

Landais '532 teaches, sending an inquiry from the BSC to the MSC, the inquiry requesting the Gs link status (see paragraphs 109, 112, i.e. BSC sending location and interface update requests to the MSC)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of a BSC sending a request to MSC for location and interface update as taught by Landais '532 into the core interface monitoring method of Bjorken '008, in order to inform the MSC to send a SC paging message via the A interface, if the Gs interface is failed, since such method is suggested by Landais '532(see paragraph 113).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, Kuusinen et al (US 20014/0049731 A1), Suumaki et al(US 6847610 B10), Bleckert et al(US 2002/0061756 A1), Svensson et al(US 688822 B2), Hurtta et al(US 2004/0017798 A1), Salin et al(US 6370390 B1), Mizell et al (US 7006478 B1), Josse et al(US 2002/0006125 A1), are recited to show paging coordination in telecommunication network.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AWET HAILE whose telephone number is (571)270-3114. The examiner can normally be reached on Monday Through Friday 8:30 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOE AUNG can be reached on (571)272-3474. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

AWET HAILE
Examiner
Art Unit 2616